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7/26/03

Docket No.: 1046.1028D2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Tetsuya NISHI et al.

Serial No. 09/631,355

Group Art Unit: 2872

Confirmation No. 9683

Filed: August 2, 2000

Examiner: Ricky D. Shafer

For: POLARIZATION CONTROL OPTICAL SPACE SWITCH

RESPONSE TO OFFICE ACTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action mailed on March 11, 2003, and having a period for response set to expire on June 11, 2003. A Petition for a one-month extension of time, together with the requisite fee for the same, is submitted herewith, thereby extending the period for response to July 11, 2003.

The following remarks are respectfully submitted. Reconsideration of the claims is respectfully requested.

Introduction:

In the Office Action mailed on March 11, 2003, claims 32-38 were rejected under 35 U.S.C. § 102(b) as being anticipated by Healey et al. (U.S. Patent No. 5,013,140) ("Healey"), claims 32-38 were rejected under 35 U.S.C. § 102(b) as being anticipated by Yamamoto et al. (U.S. Patent No. 5,162,944) ("Yamamoto"); claims 32-38 were rejected under 35 U.S.C. § 102(e) as being anticipated by DeJule et al. (U.S. Patent No. 5,317,445) ("DeJule"); and claims 23-31 were allowed. The foregoing rejections are respectfully traversed.

Claims 23-38 are pending in the subject application, of which claims 23, 32, 33, 35, 36, and 38 are independent claims.

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Healey:

Healey does not anticipate claims 32-38 of the subject application. Specifically, in the May 29, 2002 Amendment, the Applicants argued that Healey requires control over multiple rotators R1-R3 and that the present invention requires control over only one switching element. The Examiner stated in the current Office Action (in response to the Applicants' claim amendments in the November 15, 2002 Amendment After Final Rejection) that "the eight way NxN space switch has 8 to the eighth possible settings, which would include activating only one of the 8 to the eighth settings to obtain an output" (Office Action, p. 3, item 3).

The Examiner appears to be relying on col. 4, lines 36-55 and the corresponding Figure 5 of Healey. However, that section of Healey discusses eight switches 2 in parallel, each switch 2 receiving eight inputs. Referring back to the description of each switch 2 in Healey, as argued previously, control of multiple rotators is necessary (Healey, col. 3, lines 39-56). Although the Examiner states that activating only one of the 8 to the eighth settings in Healey anticipates controlling only one switching element, multiple rotators must be controlled to activate each of the 8 to the eighth settings (Healey, col. 4, lines 5-8). Therefore, Healey does not anticipate the recitation in claims 32, 33, 35, 36, and 38 that control over only one switching element of one polarization control optical switch of the polarization control optical space switch is necessary. Claims 34 and 37 depend, directly or indirectly, from one of claims 32, 33, 35, 36, and 38.

Yamamoto:

Yamamoto does not anticipate claims 32-38 of the subject application. Specifically, in the May 29, 2002 Amendment, the Applicants argued that Yamamoto requires control over multiple polarization controllers to switch light from one of a plurality of inputs to one of a plurality of outputs. In the Yamamoto apparatus, control of multiple polarization controllers is required to switch light from one of a plurality of inputs to one of a plurality of outputs. Specifically, Yamamoto discloses a plurality of optical space switches (Yamamoto, Figs. 13A-C, 17A), each space switch comprising a polarization controller array 2A, which itself comprises a plurality of eight polarization controllers aligned in a line, each controller being connected to a signal source for individual control (Yamamoto, col. 14, lines 33-42). To control each controller, two XOR operations are required, and each controller is individually set to ON or OFF depending on the

result of the XOR operation (Yamamoto, col. 16, lines 29-46).

In light of the claim amendments presented in the November 15, 2002 Amendment After Final Rejection, Yamamoto requires control over multiple controllers, i.e., performing two XOR operations and individually setting each controller ON or OFF, whereas control over only one switching element in the claimed invention is required. More specifically, reference number 2A in Fig. 17A refers to an array of polarization controllers, i.e., multiple controllers. Fig. 17A illustrates three such arrays, one for each optical space switch A, B, and C. The Examiner provided his comments, which explained that, in Fig. 17B, to connect input 1 to output 7, controller 2A of optical space switch A is set to ON and controllers 2A of optical space switches B and C are set to OFF. However, in order to implement the Examiner's example, control over multiple controllers, i.e., the controllers that make up polarization controller array 2A of optical space switch A, is required. Therefore, Yamamoto does not anticipate claims 32-38 of the subject application.

DeJule:

DeJule does not anticipate claims 32-38. Specifically, in the May 29, 2002 Amendment, the Applicants argued that DeJule requires a control signal for each switching-cell-in-the-matrix to switch light from one of a plurality of inputs to one of a plurality of outputs (DeJule, col. 5, lines 18-61; Fig. 2).

Although the Examiner indicates that "no voltage (off state) rotates the polarization of the switch and having voltage (on state) maintains the polarization of the switch" (Office Action, p. 4, item 5), seemingly implying that control over only one SLM is required, DeJule clearly states that "each SLM of switching cells S1,2, S2,3 and S3,1 receives a control signal selected to rotate the polarization orientation of light passing therethrough by 90°, while each SLM of all remaining switching cells receives a control signal selected not to rotate the polarization orientation of light passing therethrough" (DeJule, col. 5, lines 29-34) (emphasis added). Clearly, the Examiner misinterpreted DeJule, because in the claimed invention, control of only one switching element is required. Therefore, DeJule does not anticipate claims 32-38 of the claimed invention.

Allowed Claims:

The Applicants respectfully thank the Examiner for indicating that claims 23-31 are

allowable.

Conclusion:

Withdrawal of the foregoing rejections is respectfully requested.

There being no further objections or rejections, it is submitted that the application is in condition for allowance, which action is courteously requested. Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters. If there are any additional fees associated with filing of this Response, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 7-10-2003

By: 

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REPLY/AMENDMENT FEE TRANSMITTAL

		Attorney Docket No.	1046.1028D2	
		Application Number	09/631,355	
		Filing Date	August 2, 2000	
		First Named Inventor	Tetsuya NISHI et al.	
		Group Art Unit	2872	
AMOUNT ENCLOSED	\$110.00	Examiner Name	Ricky D. Shafer	

FEE CALCULATION (fees effective 10/01/00)

CLAIMS AS AMENDED	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Rate	Calculations
TOTAL CLAIMS	16	- 20 =	0	X \$ 18.00 =	\$ 0.00
INDEPENDENT CLAIMS	6	- 6 =	0	X \$ 84.00 =	0.00
Since an Official Action set an original due date of June 11, 2003, petition is hereby made for an extension to cover the date this reply is filed for which the requisite fee is enclosed (1 month (\$110); 2 months (\$410); 3 months (\$920); 4 months (\$1,440); 5 months (\$1,960)):					110.00
If Notice of Appeal is enclosed, add (\$320)					
If Statutory Disclaimer under Rule 20(d) is enclosed, add fee (\$110)					
Total of above Calculations =					\$ 110.00
Reduction by 50% for filing by small entity (37 CFR 1.9, 1.27 & 1.28)					
TOTAL FEES DUE =					\$ 110.00

- (1) If entry (1) is less than entry (2), entry (3) is "0".
- (2) If entry (2) is less than 20, change entry (2) to "20".
- (4) If entry (4) is less than entry (5), entry (6) is "0".
- (5) If entry (5) is less than 3, change entry (5) to "3".

METHOD OF PAYMENT

- Check enclosed as payment.
- Charge "TOTAL FEES DUE" to the Deposit Account No. below.
- No payment is enclosed and no charges to the Deposit Account are authorized at this time (unless specifically required to obtain a filing date).

GENERAL AUTHORIZATION

- If the above-noted "AMOUNT ENCLOSED" is not correct, the Commissioner is hereby authorized to credit any overpayment or charge any additional fees necessary to:

Deposit Account No.	19-3935
Deposit Account Name	STAAS & HALSEY LLP
- The Commissioner is also authorized to credit any overpayments or charge any additional fees required under 37 CFR 1.16 (filing fees) or 37 CFR 1.17 (processing fees) during the prosecution of this application, including any related application(s) claiming benefit hereof pursuant to 35 USC § 120 (e.g., continuations/divisionals/CIPs under 37 CFR 1.53(b) and/or continuations/divisionals/CPAs under 37 CFR 1.53(d)) to maintain pendency hereof or of any such related application.

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SUBMITTED BY: STAAS & HALSEY LLP

Typed Name	Matthew Q. Ammon	Reg. No.	50,346
Signature		Date	7-10-2003

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